

## NEW HYDROPTILIDAE (TRICHOPTERA) FROM FLORIDA<sup>1,2</sup>

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**ABSTRACT:** Two new species of microcaddisflies, *Oxyethira kelleyi* and *Ochrotrichia okaloosa*, from the panhandle region of Florida are described and illustrated.

The panhandle region of northern Florida has long been noted for its large number of endemic plants and animals (Neill, 1957). *Agarodes ziczac* Ross and Scott and *Cheumatopsyche gordonae* Lago and Harris are caddisflies endemic to this area. If the panhandle region is expanded slightly to include physiographically related lower Alabama, several other caddisflies can be added, including *Cheumatopsyche petersi* Ross, Morse and Gordon, *Polycentropus floridensis* Lago and Harris, *Nyctiophylax morsei* Lago and Harris, and *Chimarra falculata* Lago and Harris. Microcaddisflies endemic to this area include *Hydroptila parastrepha* Kelley and Harris and *Hydroptila circangula* Harris. Recent blacklight collections by one of us (BJA) on Eglin Air Force Base in northern Florida added two new species to this list of endemic caddisflies.

Type specimens will be deposited at the National Museum of Natural History, Smithsonian Institution (NMNH), Illinois Natural History Survey (INHS), University of Alabama Insect Collection (UA), Florida State Collection of Arthropods (FSCA) and personal collections of the authors (SCH, BJA). Terminology for genitalic structures generally follows that of Marshall (1979).

### *Oxyethira kelleyi* Harris, new species (Fig. 1)

This species does not fit well into any of the species groups proposed by Kelley (1984), although it has some similarity to *O. elerobi* (Blickle) and members of the subgenus *Holarctotrichia*. *Oxyethira kelleyi* differs strikingly from all other species in the elaborate feathering at the apex of the phallus.

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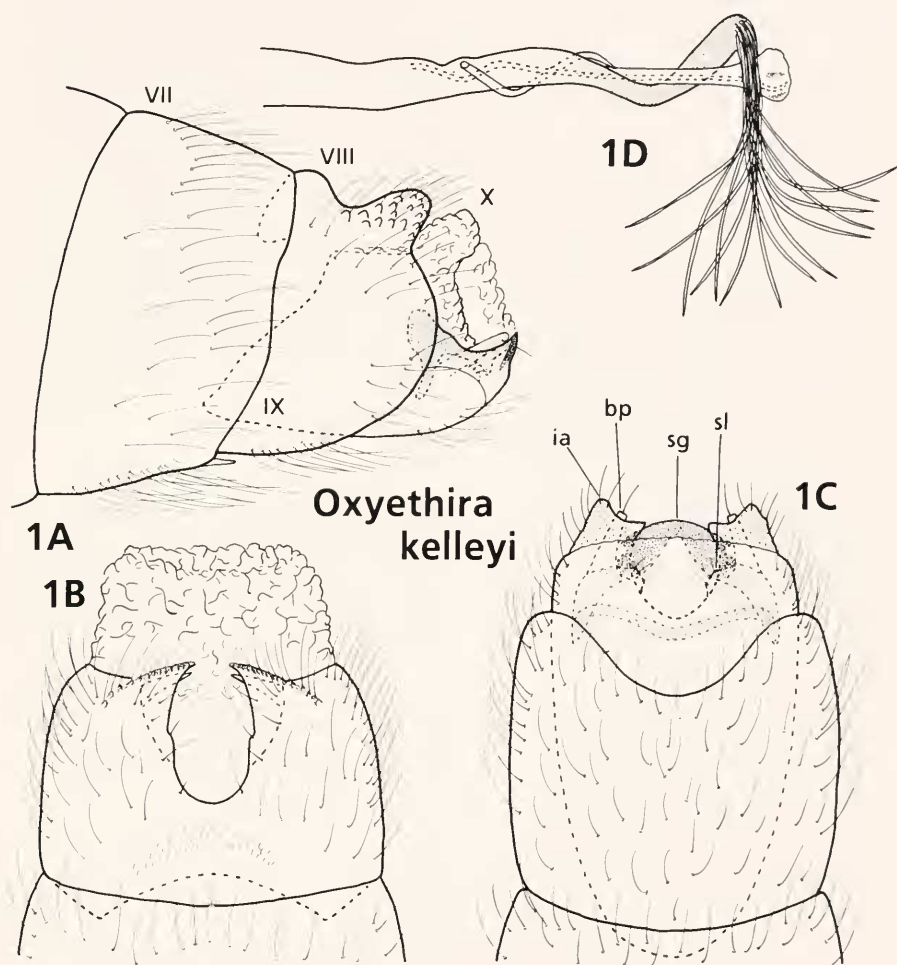


Figure 1. *Oxyethira kelleyi* n. sp., male genitalia. 1A, lateral view. 1B, dorsal view. 1C, ventral view (ia = inferior appendage; bp = bilobed process; sg = subgenital process; sl = setal lobe). 1D, phallus.

**Male:** Length 1.8-2.2 mm. Antennae with 27 segments. Color brown in alcohol. Venter of abdominal segment VII with short apicomeres process. Segment VIII in lateral view with setose dorsolateral lobe; ventrally with shallow, posterior excision; dorsally with deep, posteromesal incision, the sides of the incision produced into sclerotized, triangular processes. Dorsum segment IX reduced to narrow, semimembranous band; venter produced anteriorly into segment VII. Segment X membranous. Inferior appendages in lateral view short, triangular and heavily sclerotized; widely separated in ventral view. Subgenital process fused ventrally as narrow band; laterally with anteroventral process. Phallus divided into two processes distally, one slender with apical bulb, the other sheath-like ending in elaborate feathering; titillator originating at midlength, extending posteriorly and encircling shaft.

**Female.** Unknown.

**Etymology.** Named for Dr. Robert W. Kelley in recognition of his efforts in revising the genus *Oxyethira*.

**Holotype** ♂. FLORIDA: Okaloosa Co., Turkey Creek at Base Road 233, Eglin Air Force Base, 5.0 mile NW Niceville, 14 August 1985. B.J. Armitage and M.K. Ward (NMNH).

**Paratypes.** FLORIDA: Okaloosa Co., same locality as holotype, 7 ♂ (NMNH, INHS); Rogue Creek at Base Road 233, Eglin Air Force Base, 3.3 mile NW Niceville, 14 August 1985, 23 ♂, B.J. Armitage and M.K. Ward (NMNH, INHS, UA, FSCA); unnamed tributary to Turkey Creek at Base Road 619, Eglin Air Force Base, 4.6 mile NW Niceville, 14 August 1985, 8 ♂, B.J. Armitage and M.K. Ward (SCH, BJA).

### *Ochrotrichia okaloosa* Harris, new species (Fig. 2)

This species, only the third *Ochrotrichia*, along with *O. tarsalis* (Hagen) and *O. provosti* Blickle, known to occur in Florida, appears most similar to *O. tenuata* Blickle and Denning. Although the configuration of segment X is similar to *O. tenuata*, a western species, *O. okaloosa* is easily recognized by the large ventromesal lobes of the inferior appendages.

**Male:** Length 2.7 mm. Antennae broken. Color brown in alcohol. Abdominal segment VIII rectangular. Segment IX trapezoidal laterally; dorsum deeply incised to accommodate segment X; ventrally with deep lateral incisions. Tenth tergum divided into two halves, each with several sclerotized processes. Left component with slender, heavily sclerotized basal process, tapering to acute apex, extending about 1/3 length of segment, in lateral view this process narrow, curving dorsad; lower process narrow and sinuate in dorsal view, in lateral view with ventral lobe at midlength. Right component serrate basolaterally, distally forming a slender, sinuate ventromesal process which lies in a groove formed by convolutions of the left component, laterally forming a slender process, protruding at apex and curving mesad, in lateral view this process bending dorsad. Inferior appendages in lateral view widest at midlength with rounded apex, small projection ventromesally, peg-like setae along ventrolateral surface in distal half; in ventral view mesal projections forming a shelf at midlength, numerous peg-like setae along mesal surfaces in distal half. Phallus simple, tubular, triangular at apex with ejaculatory duct protruding.

**Female.** Unknown.

**Etymology.** Named for Okaloosa County.

**Holotype** ♂. FLORIDA: Okaloosa County, Turkey Creek at Base Road 233, Eglin Air Force Base, 5.0 mile NW Niceville, 14 August 1985. B.J. Armitage and M.K. Ward (NMNH).

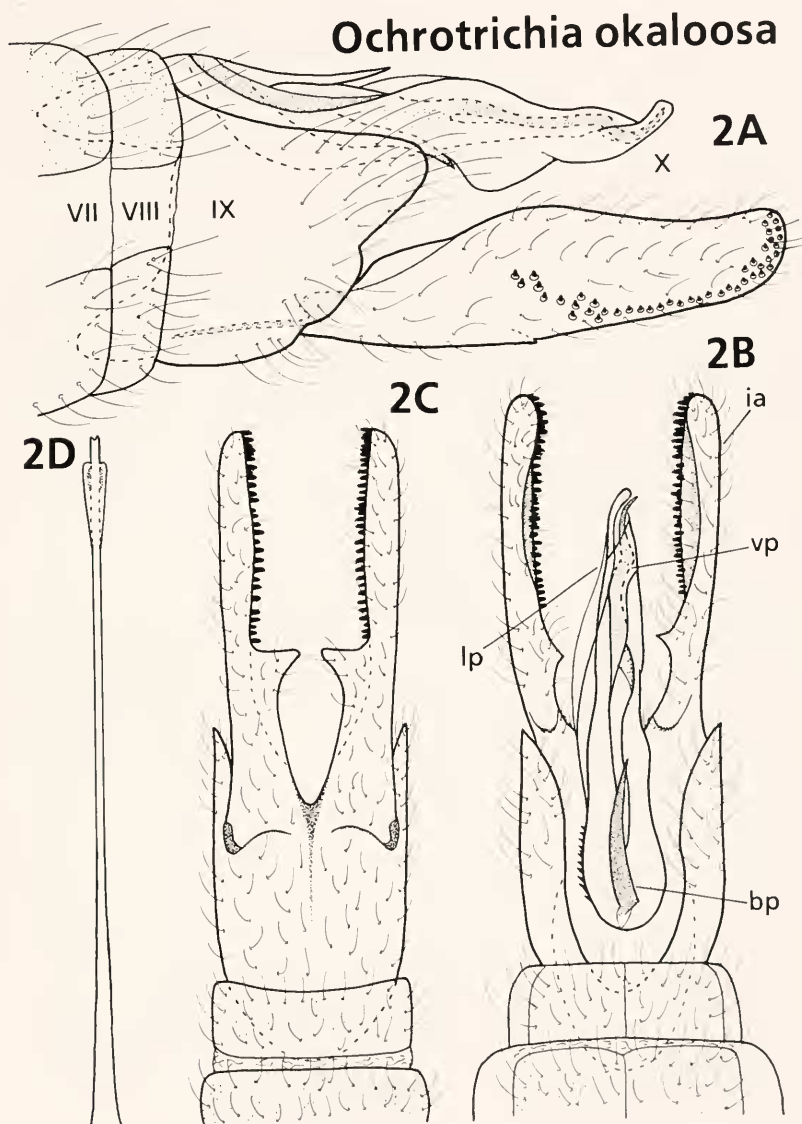


Figure 2. *Ochrotrichia okaloosa* n. sp., male genitalia. 2A, lateral view. 2B, dorsal view (ia = inferior appendage; bp = basal process; lp = lateral process; vp = ventromesal process). 2C, ventral view. 2D, phallus.

## ACKNOWLEDGMENTS

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## LITERATURE CITED

- Kelley, R.W. 1984. Phylogeny, morphology and classification of the micro-caddisfly genus *Oxyethira* Eaton (Trichoptera: Hydroptilidae). Trans. Amer. Entomol. Soc. 110:435-463.
- Marshall, J.E. 1979. A review of the genera of the Hydroptilidae. Bull. British Mus. (Nat. Hist.) Entomol. 39:135-239.
- Neill, W.T. 1957. Historical biogeography of present-day Florida. Fla. St. Mus. Bull. 2:175-220.